

## ABSTRACT OF THE DISCLOSURE

[0060] A multi-channel imaging system is calibrated by measuring the geometric distortion in each sub-image, generating corresponding correction factors, and applying such factors to correct subsequent image data. In addition, intensity transfer-function arrays are measured at each pixel, and further used to correct for system and detector nonlinearities and nonuniformity between images. The procedure is repeated over a range of wavelengths to produce a complete set of correction coefficients and transfer functions. When the system is used for interferometric phase measurements, multiple measurements are preferably taken and a random phase offset in the reference path length is introduced at each measurement. The multiple phase data so derived are then averaged to reduce phase-dependent systematic measurement errors.